

REMARKS/ARGUMENT

In the Office Action of December 18, 2002, the Examiner rejected claims 1-11, all of the claims in the application under 35 U.S.C. §103(a), as being unpatentable over Tzidon, et al (U.S. Patent No. 5,737,031) in view of Bunin (U.S. Patent No. 3,070,920).

Claims 1 and 6 have been cancelled and new claims 12 and 13 have been added. In addition, claim 2 has been made dependent on independent claim 12 and claims 7-10 have been made dependent on independent claim 13.

Applicant's invention is directed to an improved cinematographic system and method for simultaneously compositing, within a virtual studio, a real-time image frame or image sequence of a puppet, with another real-time image frame or image sequence of the same or another puppet within a given virtual studio space. The inventive system and method have application to the compositing of a master camera angle image and a close-up image of the same puppet character, and to the compositing of a master camera angle image of one action puppet character with a second image from another camera angle of another puppet action character, so as to provide an interactive image sequence of each of the characters of each image within the same image frame.

The advantage of applicant's invention is the ability to selectively and simultaneously combine multiple images of the same puppet or multiple images of at least two different puppets, which images can be selectively combined with a digitally created background image to provide an extremely realistic cinematographic display.

Most importantly, as the invention is directed to puppet action figures, the invention advantageously allows the ability to provide both a close-up and a full feature shot of a puppet through the use of two cameras, whose image can be combined.

Also, the invention solves the problem of “puppeteer cross” when puppeteers manipulate a puppet in the foreground of a virtual studio, while at the same time manipulating a puppet in the background of the virtual set.

The foregoing is possible because the two images taken from the two cameras are in real-time and simultaneously composited with each other and with a background image. This feature is not shown or suggested in the references relied on by the Examiner.

The primary reference relied on by the Examiner is the reference to Tzidon, et al, U.S. Patent No. 5,737,031. Tzidon is directed to a video system which creates a virtual shadow of a foreground object filmed in front of a blue screen with a main video camera. The virtual shadow is created using a second video camera located as a virtual light source. The video image from the second camera is processed to create the virtual shadow and both video images are combined with a background image.

The Examiner acknowledges that Tzidon does not teach the claimed, “at least one action puppet character manipulated by puppeteers on a virtual production set.” As set forth above, applicant’s invention is specifically directed to enhancing the production process of filming puppets manipulated by puppeteers and, thus, applicant submits that this is a significant difference between applicant’s invention and Tzidon.

It is also important to note that Tzidon does not show or suggest the use of two cameras; “positioned relative to an action puppet character to record, in real-time, at least

two action images of said puppet character. Nor does Tzidon show or suggest “simultaneously compositing each of said real time images from each of said cameras with a virtual image.” See new claims 12 and 13, (emphasis added).

In contrast to applicant’s invention, Tzidon is specifically directed to a method for combining a virtual shadow with a background image in order to make the background and foreground integrated. (Col. 1, lines 47-54).

The manner in which this is accomplished is set forth at col. 4, lines 26-43. As indicated, a virtual background is generated and apparently stored in memory. A shadow camera captures an image of a foreground object and acts as a virtual light source. Thus, as stated at lines 32-34, the image captured by the shadow camera is different than the image captured by the main camera. Most importantly, the output image from the shadow camera is processed to isolate the foreground object and further processed to combine the virtual set and the virtual shadow to form a completed background image. “Finally, the completed background image 111 is combined with the delayed foreground image 108 as captured by the main camera 100 to produce a composite image 113.” Col. 4, lines 39-42, (emphasis added).

Therefore, Tzidon does not show or suggest capturing the images of an action puppet character, to record in real-time, at least two action images of the same or two different puppet characters. Nor does Tzidon show or suggest simultaneously compositing each of the real-time images from each of the cameras. These emphasized limitations are now included in new independent claims 12 and 13 and accordingly applicant submits that applicant’s invention is patently distinct from the teachings in Tzidon.

The examiner also relied on the reference to Bunin in combination with Tzidon. It is respectfully submitted that Bunin alone is extremely remote from applicant's invention. Moreover, there is nothing in either reference to teach the combination suggested by the Examiner. Tzidon says nothing about puppets and focuses on only one image and creating a virtual shadow for that image. Bunin says nothing about using two cameras to capture at least two action images in real-time and simultaneously compositing those images.

Accordingly, it is respectfully submitted that independent claims 12 and 13, and dependent claims 2-5 and 7-10 are patently distinct from Tzidon and Bunin, either alone or in combination, and passage to issue of these claims is respectfully requested.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. According, the Examiner is respectfully requested to pass this application to issue.

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Respectfully submitted,

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